



Woodlands for drinking water: from best management practices to partnerships

*FORRISK workshop on soil degradation risks
in planted forests - september 10, 2014 - Bilbao*

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With financial support of France Bois Forêt



INTRODUCTION

Not only wood producers, but also land managers.

Role on different goods and services : including water related ones: French private forest organization focus on drinking water and bottled water issues.

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- water quality issues persist and drinking water treatments are expensive
- catchments in forest are sought after, thanks to good water quality at a competitive price
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⇒ How to develop forest services for drinking water quality ?

Program

1 Forests protect water quality and foresters can help to preserve it

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- 2 Drinking water catchments protection, between constraints et contracts**

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- 3 Developing partnerships, the « EAU + FOR » program**

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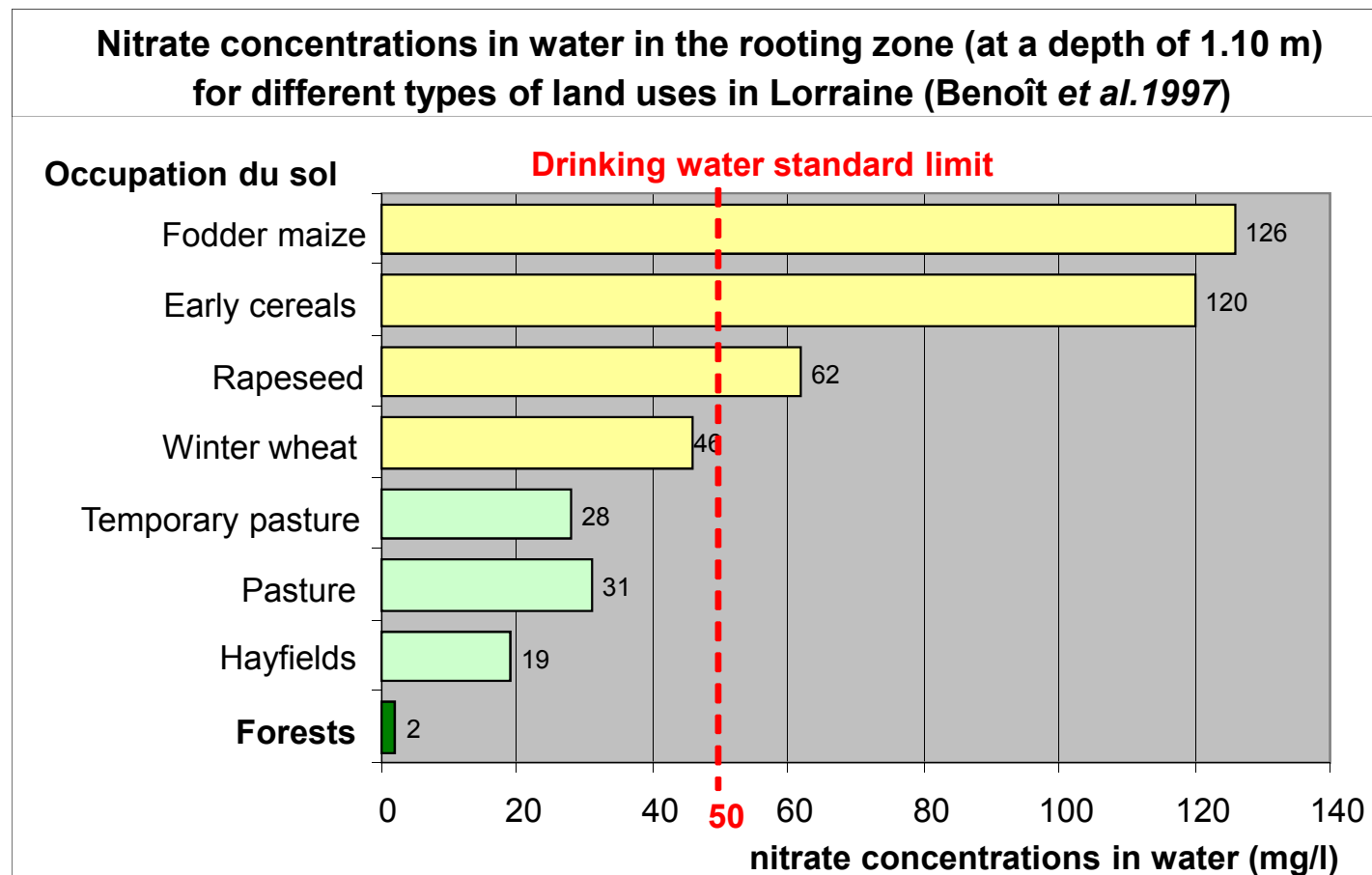
**Water quality is often at risk
with uncovered soils after
crops**



1. Forests protect water quality

- Perennial cover, mitigates leaching of mineral elements

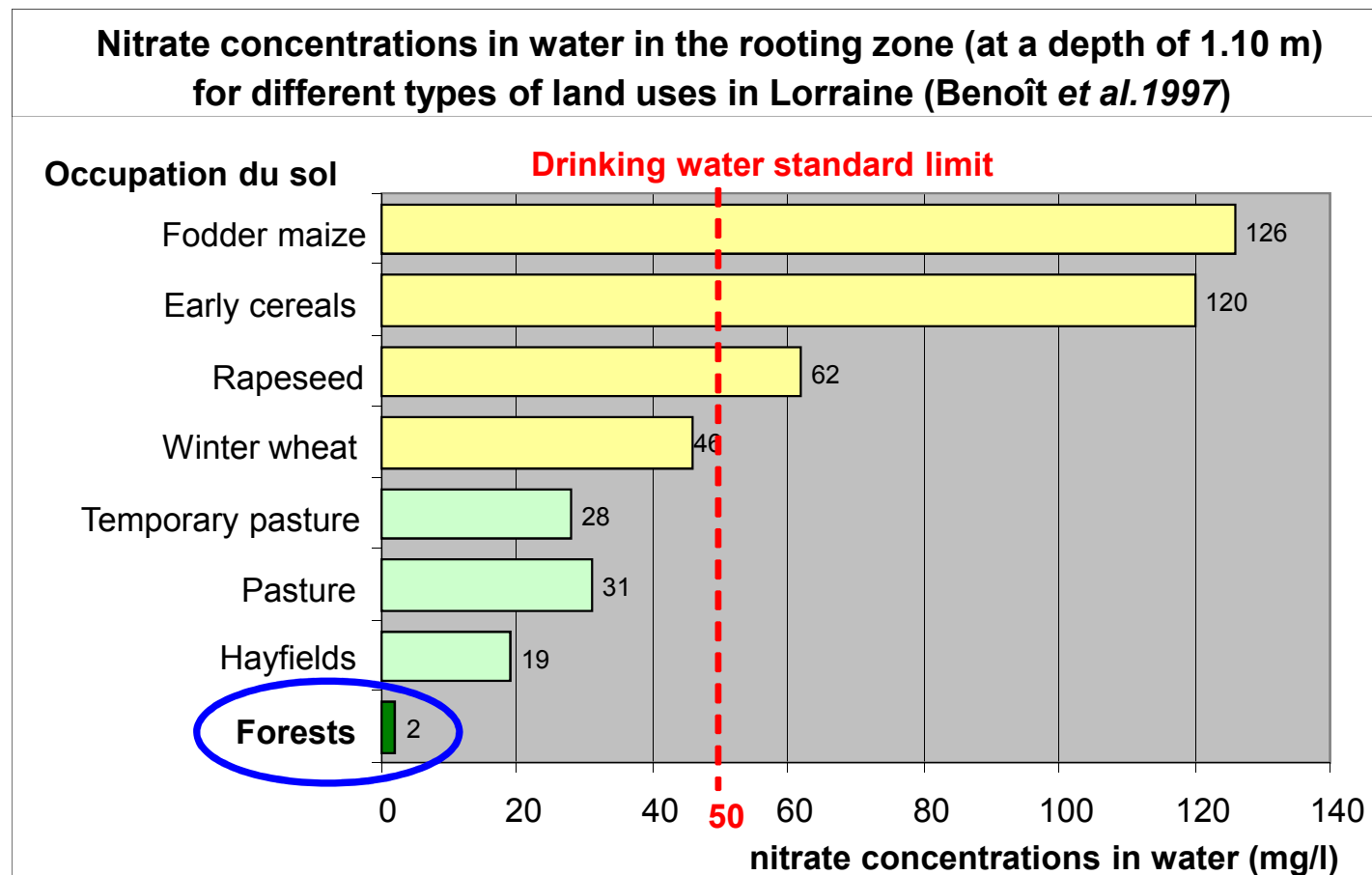
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➤ **Assets of forest management**

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➤ **Assets of forest management**

- **Long term management of land cover**
- **A less intensive management than in crop land**
 - Input use is very low in forests: herbicides treatments are 450 times less frequent in forests than in crops

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➤ Assets of forest management

- Long term management of land cover
- A less intensive management than in crop land
 - Input use is very low in forests: herbicides treatments are 450 times less frequent in forests than in crops
 - Most intensive technical processes generally don't require any input, and when it is the case, much less than for classical crop technical processes.



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➤ **Which critical points ?**

- **A forest soil and a forest cover in good shape: an asset for water quality:**
 - The priority is to have a healthy forest cover. Massive withering may impact water quality.

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➤ Which critical points ?

- **A forest soil and a forest cover in good shape: an asset for water quality:**
 - The priority is to have a healthy forest cover. Massive withering may impact water quality.
 - After, foresters can intend to favor resilience, that is to say the healing capacity of forest cover.
Mixed (different species) and uneven-aged stands are less at risk.



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– **Bare soils are a critical point**

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- ✓ **forest road construction:**
Once constructed, a good forest road
network is an asset for water protection



J. Figuepron / CNPF-IDF

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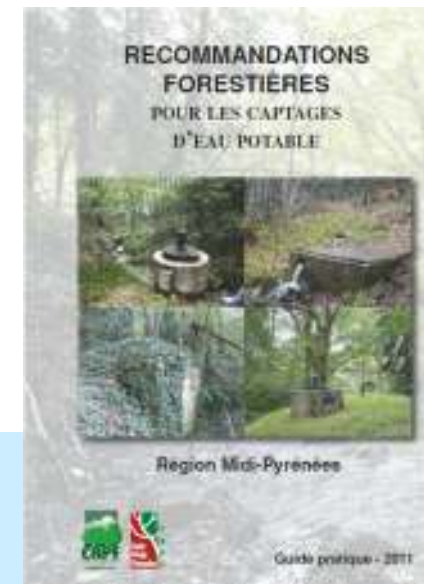
- ✓ **soil cultivation before plantation**



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forest guidelines to protect water quality:



Different hydrogeological contexts :

- **Springs, wells, drilling**

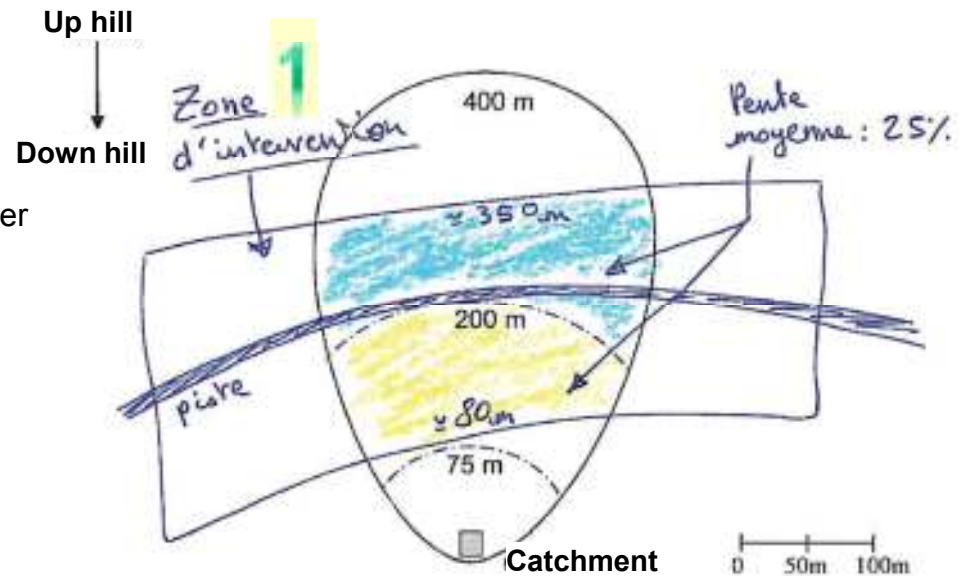
- geology: alluvium (porous aquifer)
- geology: granite, schist, gneiss... (porous - fissured aquifer)
- geology: karst (karstic aquifer)

- **River intake, dam**

Field form and diagram of sensivity : instructions

Example: spring catchment in schist

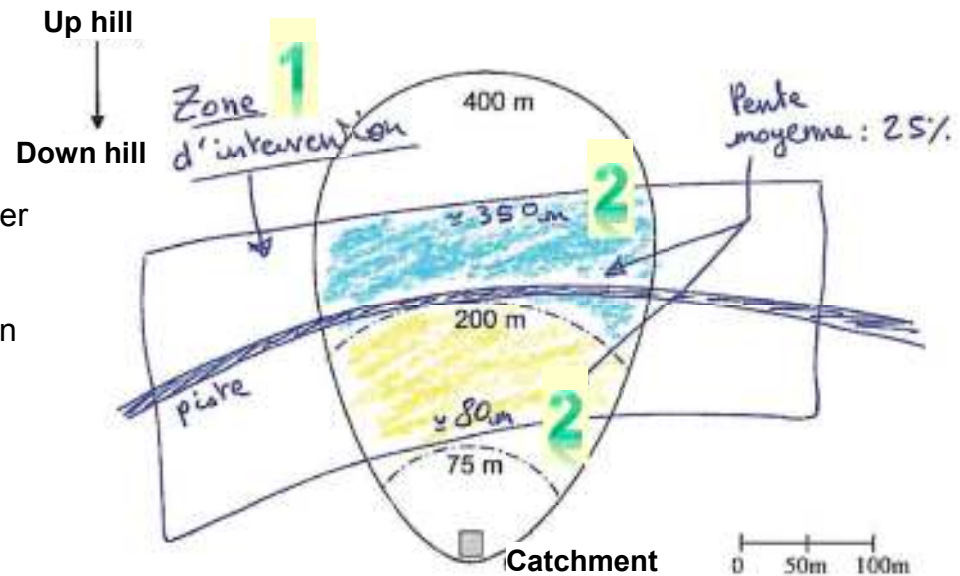
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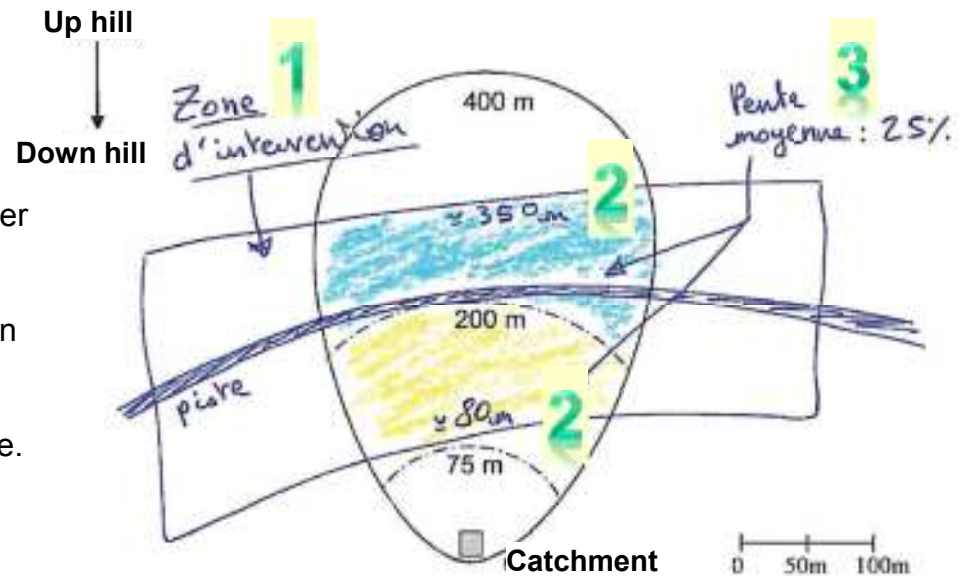
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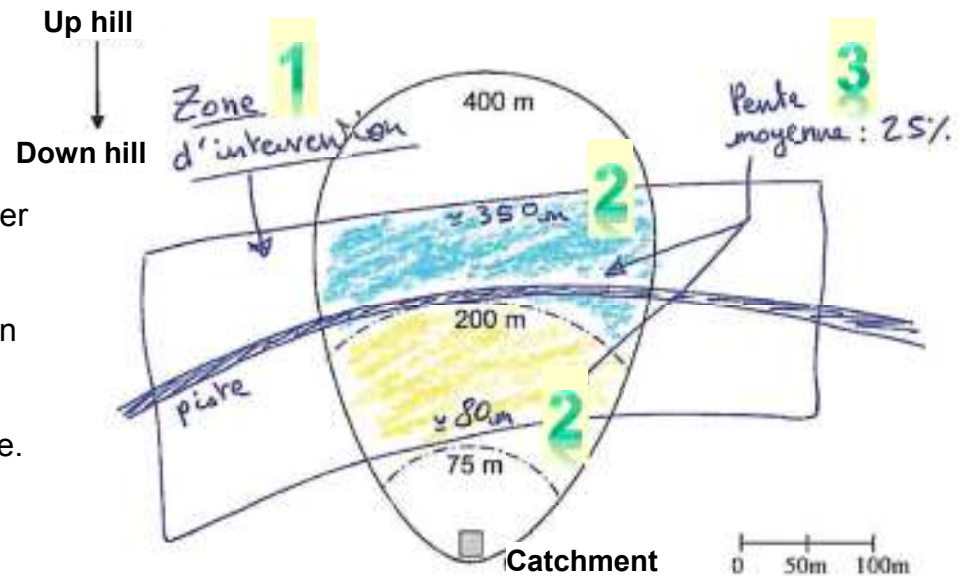
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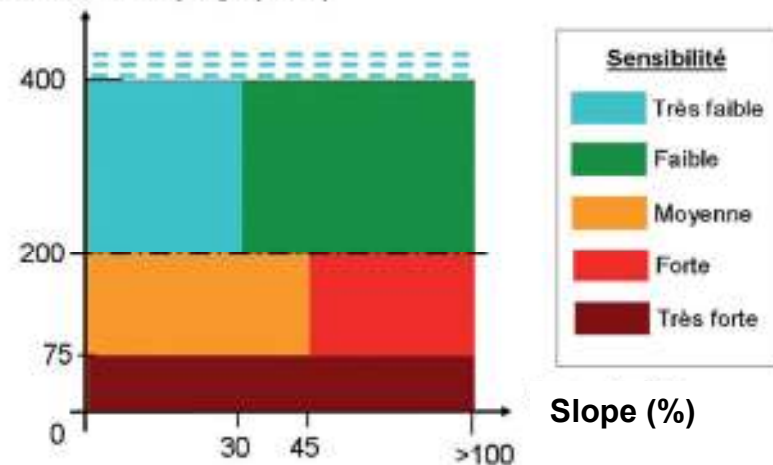
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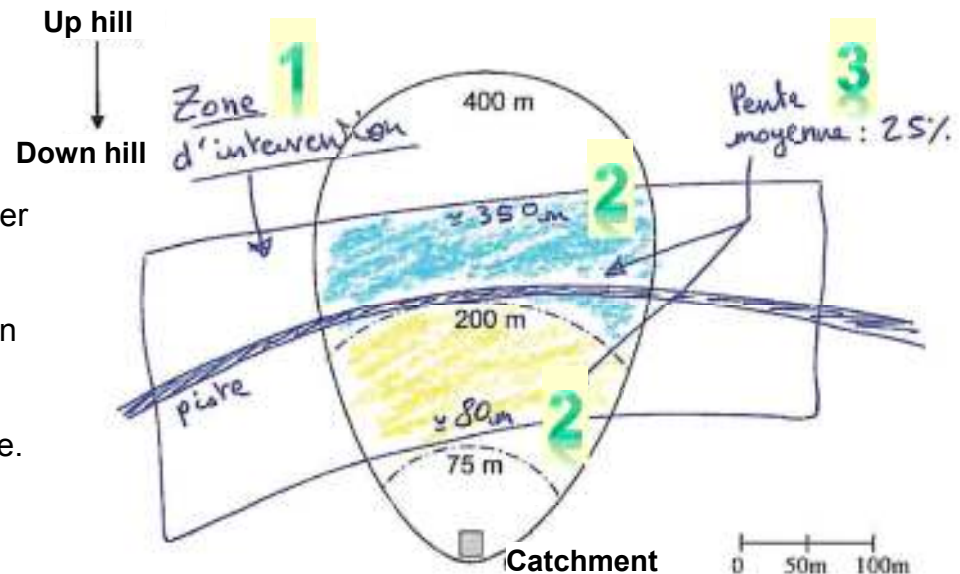
Distance to the water catchment (m)



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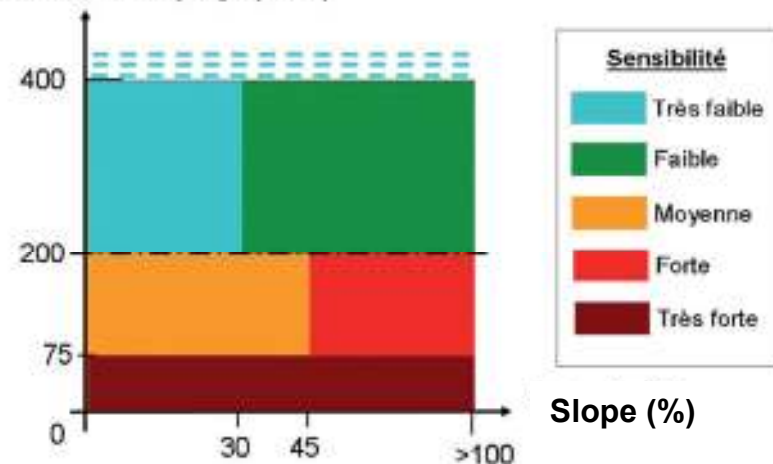
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Place yourself in the sensivity diagram

Distance to the water catchment (m)



Recommendation example: It is compulsory to create forest roads or tracks outside of the very high sensivity zone (at less than 75 m of the catchment), with additional costs of few hundreds to several thousands of €/ha. (major risk is turbidity)

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To summarize:

- « *Woodlands help to protect water resources, but they have to be cared for to make their protective role as effective and enduring as possible* »

For vulnerable catchments, forest cover is not enough to guarantee a steady good water quality: foresters have a role to play.



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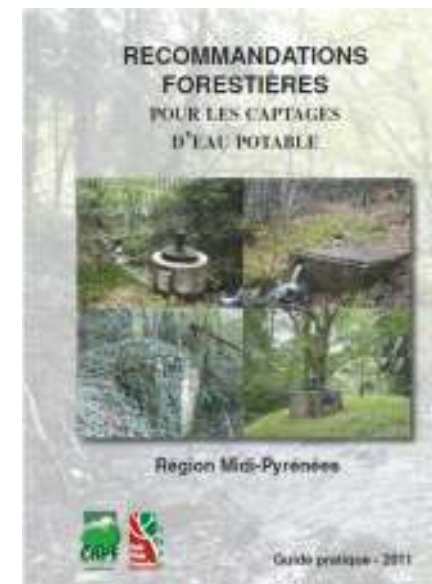
- « *Woodlands help to protect water resources, but they have to be cared for to make their protective role as effective and enduring as possible* »



For vulnerable catchments, forest cover is not enough to guarantee a steady good water quality: foresters have a role to play.

⇒ *Forest guidelines to protect water quality are available.*

www.crpf-midi-pyrenees.com/datas/pdf/guide_foret_captages_eau.pdf



2. Drinking water catchments protection, between constraints et contracts

➤ Need to restore balance of water policies

- Only regulatory procedures
- Often poorly known : compliance remains uncertain
- Unsuitable in the long run, lack of flexibility
- Regulatory procedures are not by themselves a guaranty. They need a minimum of monitoring and management to be efficient.

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⇒ **Develop complementary contractual solutions:**
to mobilize foresters,
and acknowledge their role in water protection.



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3. Developing partnerships

Those are the goals of:

« Eau + For » program

Developed by French private forest organizations, in close collaboration with local water supply services - with financial support of France Bois Forêt, the French interprofessional organization of wood and forest sector



3. Developing partnerships, the « EAU + FOR » program

Main goal:

Promote forest/water partnerships

Contracts for which services ?



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- to commit to a “forest water” label/certification



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They want a real partnership with water operators, with fair compensations.

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Obstacles on both water operators and foresters sides.

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- Strong need of a local representative to ensure animation.



Thanks for your attention

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To go further:

<http://www.foretpriveefrancaise.com/woodlands-for-drinking-water-259672.html>